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Attorney Docket: 225/49820
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: ROBERT BJEKOVIC ET AL.
Serial No.: 09/828,480 Group Art Unit: 1771
Filed: APRIL 9, 2001 Examiner: E. Cole
Title: COMPONENT WITH AN INNER FABRIC AND PROCESS FOR
PRODUCING SAME

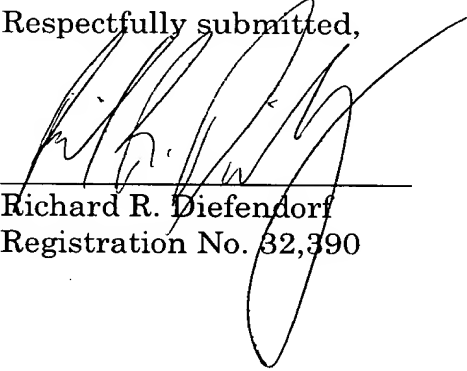
TRANSMITTAL LETTER

Mail Stop Appeal Brief-Patents
Director of the United States
Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Transmitted herewith is an Appeal Brief (in triplicate) in the captioned application, along with a Supplemental Information Disclosure Statement. One check in the amount of \$510.00 (\$330.00 for filing the Appeal Brief and \$180.00 for filing the Supplemental Information Disclosure Statement) is attached. The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment, to Account No. 05-1323 (Atty. Dkt. No. 225/49820). A copy of this sheet is attached.

Respectfully submitted,

Date: April 6, 2004


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APPEAL BRIEF

Mail Stop Appeal Brief - Patents

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Patent and Trademark Office
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Sir:

Real Party in Interest

The real party in interest is DaimlerChrysler AG, Epplestrasse 225, 70567
Stuttgart, Germany, by virtue of an assignment recorded in the U.S. Patent and
Trademark Office assignment records at reel 012227, frame 0973.

Related Appeals and Interferences

No interferences or other appeals which would affect, be affected by, or have
a bearing on a decision in this appeal are known.

Status of Claims

Claims 1, 3-25, and 27-29 are pending in this application, are rejected, and are now appealed. Claims 2 and 26 were canceled by way of the Reply filed February 24, 2003. An appendix containing a copy of claims 1, 3-25, and 27-29 is attached to this appeal brief.

Status of Amendments

No amendment has been filed subsequent to the final rejection set forth in the Office Action dated November 10, 2003.

Summary of Invention

A concise explanation of the invention will now be provided. This explanation refers, by way of example only and without intending to limit the claims, to certain drawing figures and to page and line numbers of the specification of this application.

One aspect of the invention concerns a process for producing a component with an inner fabric 1; a single layer of such a fabric 1 is shown by way of example in Figures 1 and 3. The process includes providing a plurality of polymer fabric layers 1, one layer on top of another layer (see, for example, page 3, lines 5-6), and arranging a plastic layer 2 and/or 2' between at least one pair of the plurality of fabric layers 1 (see, for example, page 3, lines 13-15). As set forth, for example, in

lines 16-18 on page 3 and lines 13-20 on page 5, the plastic layer 2 and/or 2' has a melting point of at most a melting point or a decomposing temperature of the plurality of fabric layers 1. Referring to the illustrations appearing in Figures 2 and 4 and to the description appearing, for example, from line 26 on page 3 to line 8 on page 4 and in lines 10-13 on page 6, the layer of plastic is in at least one of a powder form and a sheet form.

As discussed, for example, in lines 26-29 on page 7, the plurality of fabric layers 1 and the plastic layer 2 and/or 2' are pressed under a pressure greater than atmospheric pressure, and, as noted, for example, in lines 1-6 on page 5 and in lines 9-15 on page 8, the plastic layer is at least partially melted. A maximum of approximately 10 vol. % of fibers of the plurality of fabric layers is also melted (see, for example, lines 20-22 on page 5).

After reaching a desired final form, the melted plastic is cooled as discussed, for example, in lines 25-26 on page 8, and the fabric layers are monolithically bonded to one another as described, for example, from line 30 on page 8 to line 8 on page 9 by the cooled plastic and by the partially-melted fibers.

A further aspect of the invention concerns a component 4 including a plurality of fabric layers 1, each fabric layer having fibers 6 of which a maximum of approximately 10 vol. % have been melted, and a plastic layer 2 and/or 2' arranged between the plurality of fabric layers. Again, a melting point of the plastic layer corresponds at most to at least one of a melting point or a decomposing temperature of the fibers 6. Such a component is shown, in finished form, in Figure 3.

As discussed, for example, in lines 26-31 on page 7, when at least partially melting the plastic layer, a pressure of between 5 and 400 bar, and in particular between 10 and 200 bar, is applied. The plurality of fabric layers and the at least partially-melted plastic layer are pressed with one another for between 1 and 240 seconds, and in particular between 2 and 120 seconds (see, for example, lines 20-24 on page 8).

In certain embodiments, a centrally-arranged foam layer 3 is introduced in the plurality of fabric layers (see, for example, page 7, lines 13-16). As noted, for example, in lines 10-11 on page 8, the foam layer 3 comprises a material having a melting temperature of at least the melting temperature of the plastic layer. Additionally, in certain preferred embodiments, the fabric 1 comprises a filament 7 made from fibers 6 which is configured such that the filament 7 has a width that is greater than its height by at least a factor of 2 (see, for example, lines 20-24 on page 2).

Issues

The sole issue presented for review in this appeal is whether claims 1, 3-25, and 27-29 are unpatentable over published European application 0 418 772 A2 to Dinter et al. in view of U.S. Patent 5,670,235 to Stricker et al.

Grouping of Claims

With respect to the issue mentioned above, claims 1, 3, 6, 13-15, 18-22, and 25 stand or fall together. Claims 4, 5, 7-12, 16, 17, 23, 24, and 27-29 are believed to be separately patentable, however, and do not stand or fall together with the other claims mentioned.

Argument

I. The rejection of claims 1, 3, 6, 13-15, 18-22 and 25 as being unpatentable over the published Dinter et al. application in view of the Stricker et al. patent is erroneous.

A partial English translation of published German application DE 39 31 452 A1, which is an equivalent of the published Dinter et al. application relied on, was submitted on February 24, 2003.

Claim 1 defines a process for producing a component with an inner fabric comprising, in addition to others, a melting operation in which a maximum of approximately 10 vol. % of fibers of a plurality of fabric layers is melted. Claim 18, similarly, defines a component comprising fabric layers, and each fabric layer as comprising fibers of which a maximum of approximately 10 vol. % have been melted. The documents relied on by the Examiner, taken as a whole, do not suggest the limitations mentioned above.

As acknowledged by the Examiner, the published Dinter et al. application relied on does not teach that fibers of reinforcing layers 3, 3', 3a, should partially

melt during molding. In fact, nothing in the disclosure of the Dinter et al. application relied on suggests that either the fibers of the reinforcing layers or the reinforcing layers 3, 3', 3a themselves melt at all. The published Dinter et al. application relied on instead discloses only that the melting point of a sealing layer 5, 5' is lower than the melting point of each of the thermoplastic films 4, 4'; neither the sealing layers 5, 5' nor the thermoplastic films 4, 4' appear to include fibers.

In section 2 on pages 2-3 of the Office Action, the Examiner refers specifically to lines 39-45 in column 7 of the Stricker et al. patent. These lines disclose that needle webs (from which decorative layer 3 and backing 4 are made) are joined to a polypropylene sheet 2 by thermal bonding. These lines further specify that individual fibers or agglomerated fibers, which are located on the side of the needle webs facing the polypropylene sheet 2, are sintered to the surface of that sheet. Nothing in column 7, lines 39-45 of the Stricker et al. patent, and nothing anywhere else in the Stricker et al. patent, suggests modifying the laminate forming the subject matter of the published Dinter et al. application relied on so that a maximum of approximately 10 vol. % of the fibers in layers 3, 3', 3a are melted.

The Examiner asserts, on page 3 of the Office Action, that "Stricker teaches that the amount of fibers to be melted should be optimized during the fabrication process" There is nothing, however, in either the disclosure provided by the published Dinter et al. application or the Stricker et al. patent suggesting that optimized melting of fibers in the laminate forming the subject matter of the Dinter et al. application would be a maximum of approximately 10 vol. % of fibers in a

plurality of fabric layers as claim 1 requires or a maximum of approximately 10 vol. % in each fabric layer as claim 18 requires. Nothing properly relied on by the Examiner compels a conclusion that “the process of routine experimentation” referred to on page 3 of the Office Action would result in melting a maximum of approximately 10 vol. % of fibers as claims 1 and 18 require, and the justification set forth by the Examiner for the modification to the Dinter et al. laminate proposed is inappropriate.

For reasons discussed above, the Dinter et al. application and the Stricker et al. patent, taken as a whole, do not suggest the subject matter defined by claims 1 and 18. Claims 1 and 18 are patentable, and the rejection of claims 1 and 18 under 35 U.S.C. §103(a) is erroneous and should be reversed. The rejection of dependent claims 3, 6, 13-15, 19-22, and 25 under 35 U.S.C. §103(a) is also erroneous for the same reasons and should also be reversed.

II. The rejection of dependent claims 4 and 5 is erroneous for reasons discussed above in connection with claim 1 as well as the following reasons. Claim 4 depends on claim 1 and further specifies that “when at least partially melting the plastic layer, a pressure of between 5 and 400 bar is applied.” Claim 5 depends on claim 4 but further limits the pressure range to “between 10 and 200 bar.” Although the Examiner states on page 3 of the Office Action that “Stricker teaches controlling the processing conditions so that only those fibers on the surface of the fabric will melt,” the Examiner does not directly address the limitations of either

claim 4 or claim 5 in the rejection. Nothing in either the published Dinter et al. application or the Stricker et al. patent suggests applying a pressure within the range specified by claim 4 or by claim 5, and the published Dinker et al. application and the Stricker et al. patent, taken as a whole, do not suggest the subject matter of either claim 4 or claim 5. Even assuming that the rejection of claim 1 discussed above is not erroneous, the rejection of claims 4 and 5 is therefore erroneous and should be reversed.

III. The rejection of dependent claims 7 and 8 is erroneous for reasons discussed above in connection with claim 1 as well as the following reasons. Claim 7 depends on claim 1 and further specifies that “the plurality of fabric layers and the at least partially-melted plastic layer are pressed with one another for between 1 and 240 seconds.” Claim 8 depends on claim 7 but further limits the time range to “between 2 and 120 seconds.” Again, the Examiner does not directly address the limitations of either claim 7 or claim 8 in the rejection. Nothing in either the published Dinter et al. application or the Stricker et al. patent suggests pressing fabric layers and an at least partially-melted plastic layer with one another for the period of time specified by claim 7 or claim 8, and the published Dinker et al. application and the Stricker et al. patent, taken as a whole, do not suggest the subject matter of either claim 7 or claim 8. As a result, even assuming that the rejection of claim 1 discussed above is not erroneous, the rejection of claims 7 and 8 is erroneous and should be reversed.

IV. The rejection of dependent claims 9-12, 23, and 24 is erroneous for reasons discussed above in connection with claims 1 and 18 as well as the following reasons. Claim 9 depends on claim 1 and further specifies “introducing a centrally-arranged foam layer in the plurality of fabric layers.” Claim 23, similarly, depends on claim 18 and further specifies “a centrally-arranged foam layer in the plurality of fabric layers.” While the Examiner acknowledges that the Dinter et al. laminate does not incorporate a foam layer into the laminate thereof, the Examiner incorrectly concludes that the Stricker et al. patent teaches forming a molded panel comprising foam layers in addition to other layers. The Stricker et al. laminate includes a decorative layer 3 and a backing 4, both made from a polypropylene fiber needle web (see column 7, lines 35-36), a support layer 2 extruded as a deformable polypropylene web (see column 8, lines 35-38), and an intermediate layer 5 consisting of a polyester fabric (see column 7, lines 45-47). The Stricker et al. laminate, however, does not include any foam layer. The published Dinker et al. application and the Stricker et al. patent, taken as a whole, do not suggest the subject matter of either claim 9 or claim 23, and, even assuming that the rejection of claims 1 and 18 discussed above is not erroneous, the rejection of claims 9 and 23 is erroneous and should be reversed. The rejection of claims 10-12, which depend on claim 9, and of claim 24, which depends on claim 23, is also erroneous for the same reasons and should be reversed.

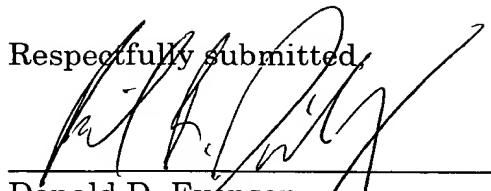
V. Finally, the rejection of dependent claims 16, 17, and 27-29 is erroneous for reasons discussed above in connection with claims 1 and 18 as well as the

following reasons. Claim 16 depends on claim 1 and further defines the specified fabric as comprising a “filament made from fibers, wherein the filament has a width that is greater than its height by at least a factor of 2.” Claim 27, similarly, depends on claim 18 and further defines the fabric layers as comprising “filaments consisting of fibers, wherein a width of the filaments is greater than their height by at least a factor of 2.” Although the Examiner states that “[w]ith regard to the fiber widths..., it would have been obvious to one of ordinary skill in this art to have optimized the properties desired... through the arrangement of the layers,” nothing properly relied on by the Examiner in any way suggests that properties of a known process or component would be optimized by providing the claimed filament width and height relationship specified in claim 16 or 27. Even assuming that the rejection of claims 1 and 18 discussed above is not erroneous, the rejection of claims 16 and 27 is therefore erroneous and should be reversed. Claim 17 depends on claim 16 and further restricts the claimed filament width and height relationship specified by claim 16, while claims 28 and 29 depend on claim 27 and further restrict the claimed filament width and height relationship specified by claim 27. The rejection of claims 17, 28, and 29, therefore, should additionally be reversed.

All rejections set forth in the Office Action dated November 10, 2003, should be reversed for reasons discussed above.

Date: April 6, 2004

Respectfully submitted,



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Appendix

1. A process for producing a component with an inner fabric, comprising:
 - providing a plurality of fabric layers, one layer on top of another layer, wherein the plurality of fabric layers comprise a polymer fabric;
 - arranging a plastic layer between at least one pair of the plurality of fabric layers, wherein the plastic layer has a melting point of at most a melting point or a decomposing temperature of the plurality of fabric layers;
 - pressing the plurality of fabric layers and the plastic layer under a pressure greater than atmospheric pressure;
 - at least partially melting the plastic layer;
 - melting a maximum of approximately 10 vol. % of fibers of the plurality of fabric layers;
 - after reaching a desired final form, cooling the melted plastic;
 - monolithically bonding the plurality of fabric layers to one another by the cooled plastic and by the partially-melted fibers,
 - wherein the layer of plastic is in at least one of a powder form or a sheet form.

3. A process according to Claim 1, wherein the at least partially melted plastic layer infiltrates into the plurality of fabric layers.

4. A process according to Claim 1, wherein, when at least partially melting the plastic layer, a pressure of between 5 and 400 bar is applied.

5. A process according to Claim 4, wherein a pressure of between 10 and 200 bar is applied.

6. A process according to Claim 1, wherein the plastic layer has a melting temperature of between 120°C and 165°C.

7. A process according to Claim 1, wherein the plurality of fabric layers and the at least partially-melted plastic layer are pressed with one another for between 1 and 240 seconds.

8. A process according to Claim 7, wherein the plurality of fabric layers and the at least partially-melted plastic layer are pressed with one another for between 2 and 120 seconds.

9. A process according to Claim 1, further comprising introducing a centrally-arranged foam layer in the plurality of fabric layers.

10. A process according to Claim 9, wherein a plastic layer is arranged alongside the foam layer.

11. A process according to Claim 9, wherein a plastic layer is arranged along both sides of the foam layer.

12. A process according to Claim 10, wherein the foam layer comprises a material having a melting temperature of at least the melting temperature of the plastic layer.

13. A process according to Claim 1, wherein the pressing is in a molding press.

14. A process according to Claim 1, wherein the plastic layer has a melting point below at least one of the melting point or the decomposing temperature of the plurality of fabric layers.

15. A process according to Claim 1, wherein the plastic layer has a volume greater than or equal to a sum of:

clearances between neighboring fabric layers in a desired final state of the component, and

half of the clearances which each of the two neighboring fabric layers has itself.

16. A process according to Claim 1, wherein the fabric of the plurality of fabric layers comprises a filament made from fibers, wherein the filament has a width that is greater than its height by at least a factor of 2.

17. A process according to Claim 16, wherein the filament has a width that is greater than its height by at least a factor of 10.

18. A component, comprising:

a plurality of fabric layers, each fabric layer comprising fibers of which a maximum of approximately 10 vol. % have been melted; and

one or more plastic layers arranged between the plurality of fabric layers,

wherein a melting point of the one or more plastic layers corresponds at most to at least one of a melting point or a decomposing temperature of the fibers.

19. A component according to Claim 18, wherein the one or more plastic layers are arranged at least partially between the fibers of the plurality of the fabric layers.

20. A component according to Claim 18, wherein the melting point of the one or more plastic layers is below at least one of the melting point or the decomposing temperature of the fibers of the plurality of fabric layers.

21. A component according to Claim 18, wherein the one or more plastic layers has a melting point of between 120°C and 165°C.

22. A component according to Claim 18, wherein each fabric layer comprises a polymer fabric.

23. A component according to Claim 18, further comprising a centrally-arranged foam layer in the plurality of fabric layers.

24. A component according to Claim 23, wherein a melting temperature of the foam layer is at least the melting temperature of the one or more plastic layers.

25. A component according to Claim 18, wherein the fabric of the plurality of fabric layers is a geotextile.

27. A component according to Claim 18, wherein the plurality of fabric layers comprise filaments consisting of fibers,

wherein a width of the filaments is greater than their height by at least a factor of 2.

28. A component according to Claim 27, wherein a width of the filaments is greater than their height by a factor of 5.

29. A component according to Claim 27, wherein a width of the filaments is greater than their height by a factor of 10.